

TA-F445R

SERVICE MANUAL

AEP Model



SPECIFICATIONS

Amplifier

Continuous RMS power output (both channels driven simultaneously)

Model for Scandinavian countries, Switzerland, Spain and Portugal

DIN, 1 kHz	8 ohms	60 W + 60 W
20 Hz – 20 kHz	8 ohms	50 W + 50 W

Model for other countries

DIN, 1 kHz	4 ohms	75 W + 75 W
	8 ohms	60 W + 60 W
20 Hz – 20 kHz	8 ohms	50 W + 50 W

Input

Input jack	Jack type	Sensitivity	Impedance
PHONO (MM)	Phono	2.5 mV	50 kilohms
TUNER, CD, AUX, TAPE 1/DAT, TAPE 2/MD	Phono	150 mV	50 kilohms

S/N

PHONO (MM) A, 5 mV	76 dB
TUNER, CD, AUX, TAPE 1/DAT, TAPE 2/ND	100 dB

Output

Output jack	Jack type	Voltage/impedance
REC OUT	Phono jack	Voltage 150 mV Impedance 1 kohm
SPEAKERS	—	Model for Scandinavian countries, Switzerland, Spain and Portugal: 8 – 16 ohms Model for other countries: 4 – 16 ohms
HEADPHONES	Stereo phone jack	Accepts low and high impedance headphones

Tone controls

	Response	Turnover frequency
BASS	± 10 dB (100 Hz)	300 Hz
TREBLE	± 10 dB (10 kHz)	5 kHz

Harmonic distortion Less than 0.025% at 10 W output
Intermodulation (IM) distortion (60 Hz: 7 kHz = 4:1)

Frequency response Less than 0.025% at 10 W output
PHONO: RIAA equalization curve
± 0.5 dB

TUNER, CD, AUX, TAPE 1/DAT, TAPE 2/MD: 7 Hz – 100 kHz ± 3 dB

Residual noise Less than 170 µV (network A)

Damping factor 50 (8 ohms, 1 kHz)

— Continued on next page —

INTEGRATED STEREO AMPLIFIER
SONY®

General

System	Preamplifier: Low-noise, equalizer amplifier Power amplifier: Pure-complementary SEPP OCL power amplifier with all stages directly coupled
Power requirements	220 V – 230 V AC, 50/60 Hz
Power consumption	Model for Scandinavian countries, Switzerland, Spain and Portugal 120 W Model for other countries 180 W
Dimensions	Approx. 430 × 135 × 315 mm (w/h/d) (17 × 5 ³ / ₈ × 12 ¹ / ₂ inches)
Mass	Approx. 6.6 kg (14 lb 9 oz)
Supplied accessories	Remote commander RM-S311 (1) Sony SUM-3 (NS) batteries (2)



The above values are measured at 230 V AC.

Design and specifications are subject to change without notice.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Note:

There are two type of AEP models which are depend on countries.

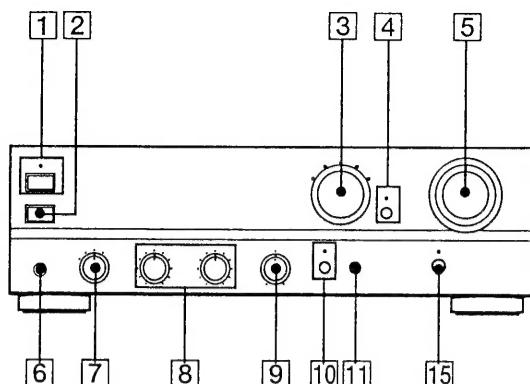
AEP2 model: Model for Scandinavian countries,
Switzerland, Spain and Portugal

AEP1 model: Model for other European countries

SECTION 1 GENERAL

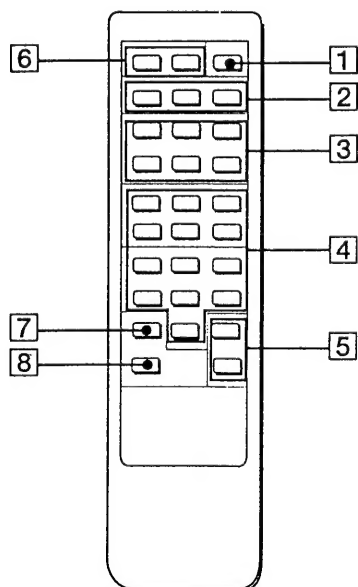
This section is extracted from instruction manual.

LOCATION OF CONTROLS



Front Panel

- 1** POWER switch and STANDBY indicator
Immediately after turning on the POWER switch, the STANDBY indicator blinks and then goes off. In case of short-circuit of the speaker outputs, etc., the indicator remains blinking. In such case, turn off the unit and check the connected components and speaker system.
- 2** Remote control sensor
- 3** INPUT SELECTOR and indicators
TAPE 2/MD
AUX
CD
TUNER
PHONO
- 4** SOURCE DIRECT button and indicator
- 5** VOLUME control
- 6** HEADPHONES jack
- 7** SPEAKERS selector
- 8** TONE (BASS/TREBLE) controls
- 9** BALANCE control
- 10** EON button and indicator
- 11** LOUDNESS button
- 15** TAPE 1/DAT MONITOR button and indicator



Remote Commaner

- 1** POWER switch
- 2** TUNER operation buttons
TUNER: Select the TUNER mode.
PRESET +/- buttons: Select the preset station.
- 3** CD operation buttons
⏮/⏭: Automatic music sensor.
D. (Disc) SKIP: Disc skip (for CD player equipped with a multi-disc changer)
▶: The amplifier enters the CD mode and the CD player starts playback automatically.
■: Stop.
⏸: Pause.
- 4** TAPE 2 DECK A/DECK B operation buttons
⏮/⏭: Fast winding.
■: Stop.
◀: The amplifier enters the TAPE 2 mode and the tape deck starts reverse playback automatically.
▶: The amplifier enters the TAPE 2 mode and the tape deck starts forward playback automatically.
● + ▶: Start recording
● + ◀: Start recording in the reverse direction
⏸: Pause. (Only for DECK B)
- 5** VOL (Volume) +/- buttons
- 6** PHONO operation buttons
START: Pressing START automatically selects the PHONO mode on the amplifier and starts playback of the turntable system.
STOP: Stops playback of the turntable system.
- 7** DAT/TAPE 1 button
Selects the DAT or TAPE 1 mode.
- 8** AUX button
Selects the AUX mode.

SECTION 2

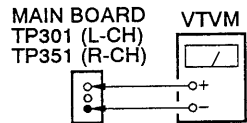
ELECTRICAL ADJUSTMENT

Note:

1. DC BIAS adjustments should be made within 2 to 3 minutes after the POWER switch is turned on (POWER ON).
2. After replacing the power transistors, DC BIAS adjustments should be made.

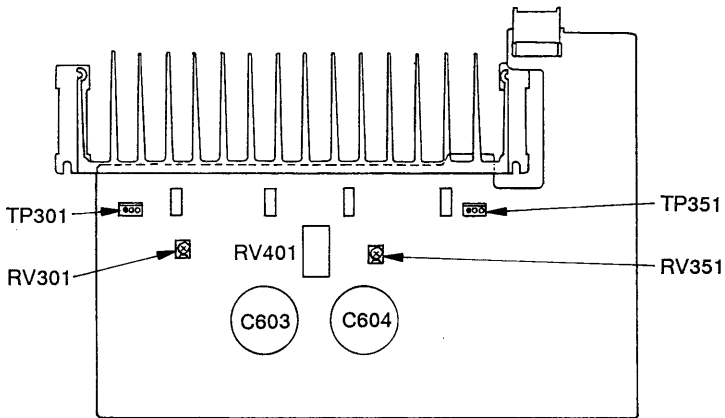
DC Bias Adjustment (with no signal input)

Procedure:



	Adjustment part	Reading on VTVM
L-CH	RV301	20 mV
R-CH	RV351	20 mV

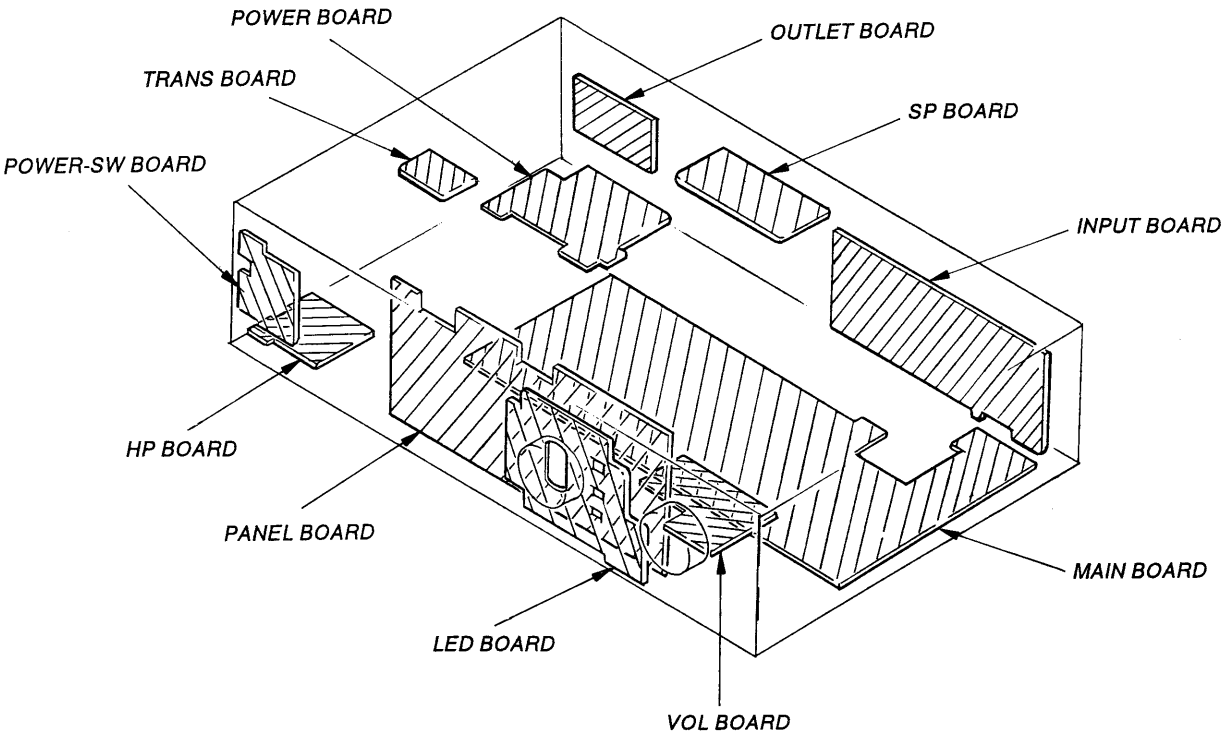
[ADJUSTMENT LOCATIONS]



SECTION 3

DIAGRAMS

• **Circuit Boards Location**

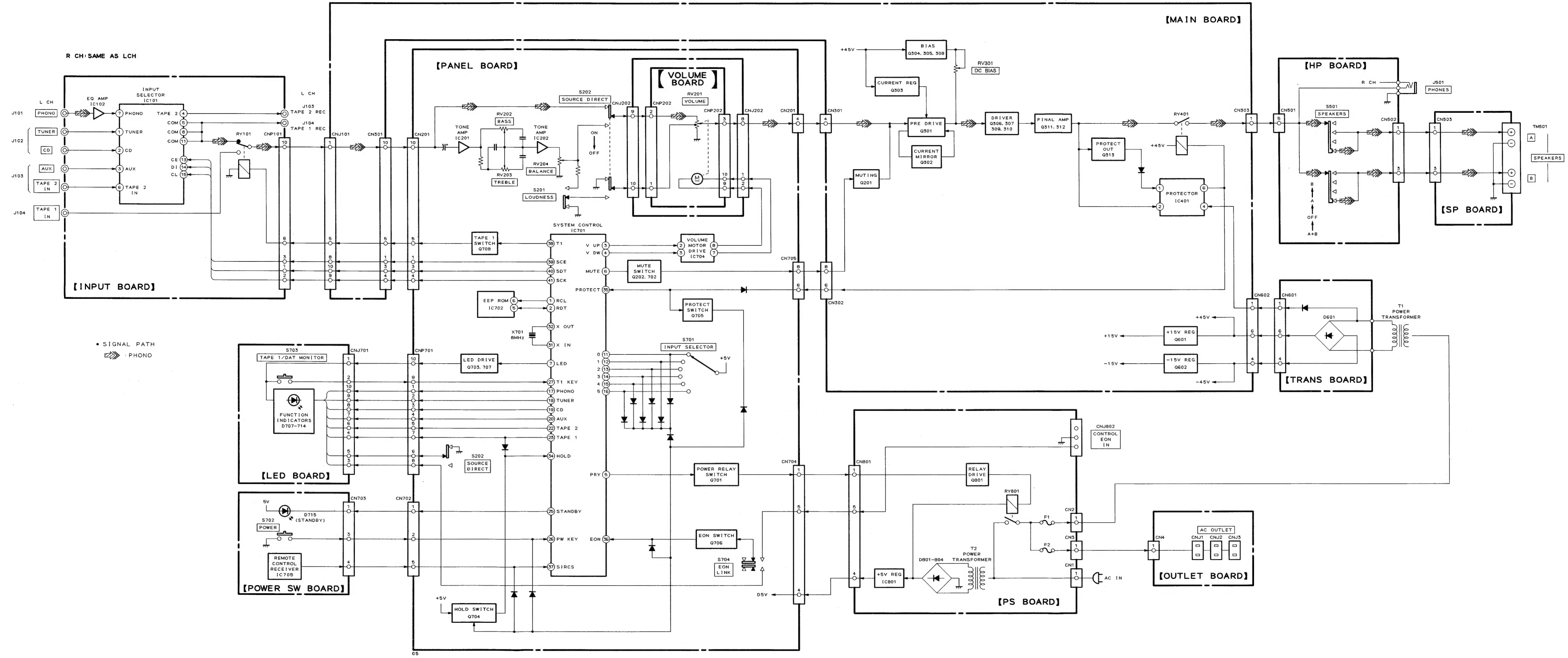


3-1. IC PIN DESCRIPTION

PANEL BOARD IC701 TMP47C200BN-H307

Pin No.	Pin Name	I/O	Description
1	RCL	O	Clock } Serial data of EEPROM. (X24C01) Data }
2	RDT	I/O	
3	VUP	O	Up } VR motor control signal. (Active: H, Stop: L-L, Brake: H-H) Down }
4	VDW	O	
5	PRY	O	Power relay ON/OFF control signal. (ON: L)
6	MUT	O	Mute Control signal output when switching. (Mute: H)
7	LED	O	LED display signal. (L: Function LED is turned on.)
8	SIM	I	SIRCS decode/mode switching signal. (Pull down to GND.)
9	—	I	Not used. (Pull down to GND.)
10	—	I	Not used. (Pull down to GND.)
11	SW0	I	Relativity position detection signal of rotary switch. (One of them terminal: L, the other terminal: H) Direction from SW5 to SW0, TUNER → CD → AUX → TAPE2 → PHONO → TUNER →
12	SW1	I	
13	SW2	I	
14	SW3	I	
15	SW4	I	
16	SW5	I	
17	PHONO	O	Function LED drive signal. (ON: L)
18	TUNER	O	
19	CD	O	
20	AUX	O	
21	GND	—	GND terminal.
22	TAPE2	O	Function LED drive signal. (ON: L)
23	TAPE1	O	
24	VOLLED	O	Not used. (Pull down to GND.)
25	STANBY	O	Standby LED drive signal. (ON: L)
26	PW KEY	I	Power ON/OFF signal. (SW ON: L)
27	T1 KEY	I	Not used. (Open)
28	—	I	Not used. (Pull down to GND.)
29	F3/F5	I	Model mode switch signal. (Pull up to VDD.)
30	TEST		Test terminal. (Open)
31	XIN	—	Oscillation signal 8.19 MHz.
32	XOUT	—	
33	RESET	I	Reset signal. (Reset: L)
34	HOLD	I	Cancellation of hold mode signal. (Start: H)
35	PROTEC	I	Protector detection signal. (Active: H)
36	EON	I	EON detection signal. (Switch to TUNER, when H to L.)
37	SIRCS	I	SIRCS signal. (Active: L)
38	T1	O	Not used. (Pull down to GND.)
39	SCE	O	Chip Enable } Data } Serial control signal to TC9173. Clock }
40	SDT	O	
41	SCK	O	
42	VDD	—	Power supply (+5 V) terminal.

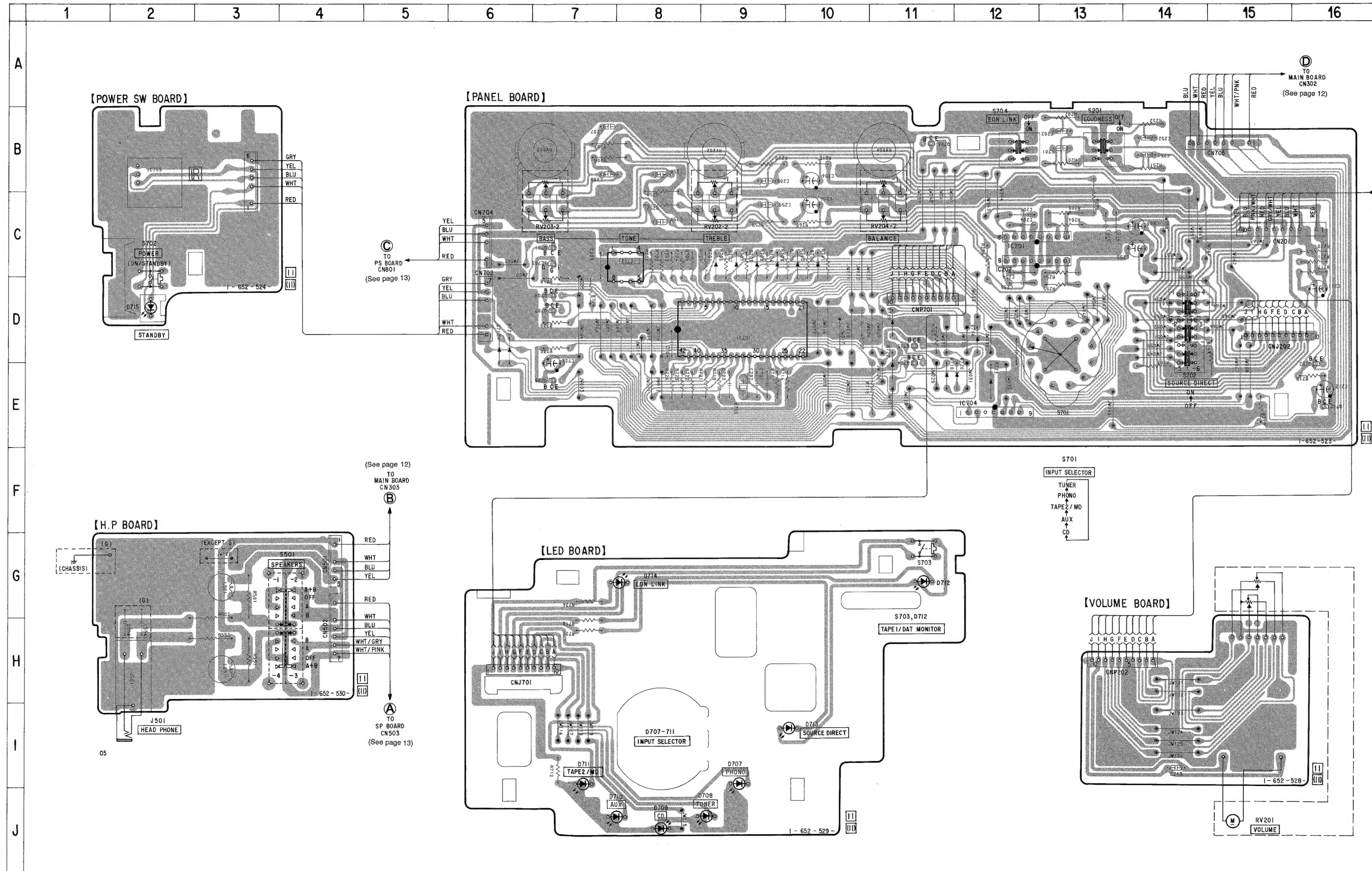
3-2. BLOCK DIAGRAM



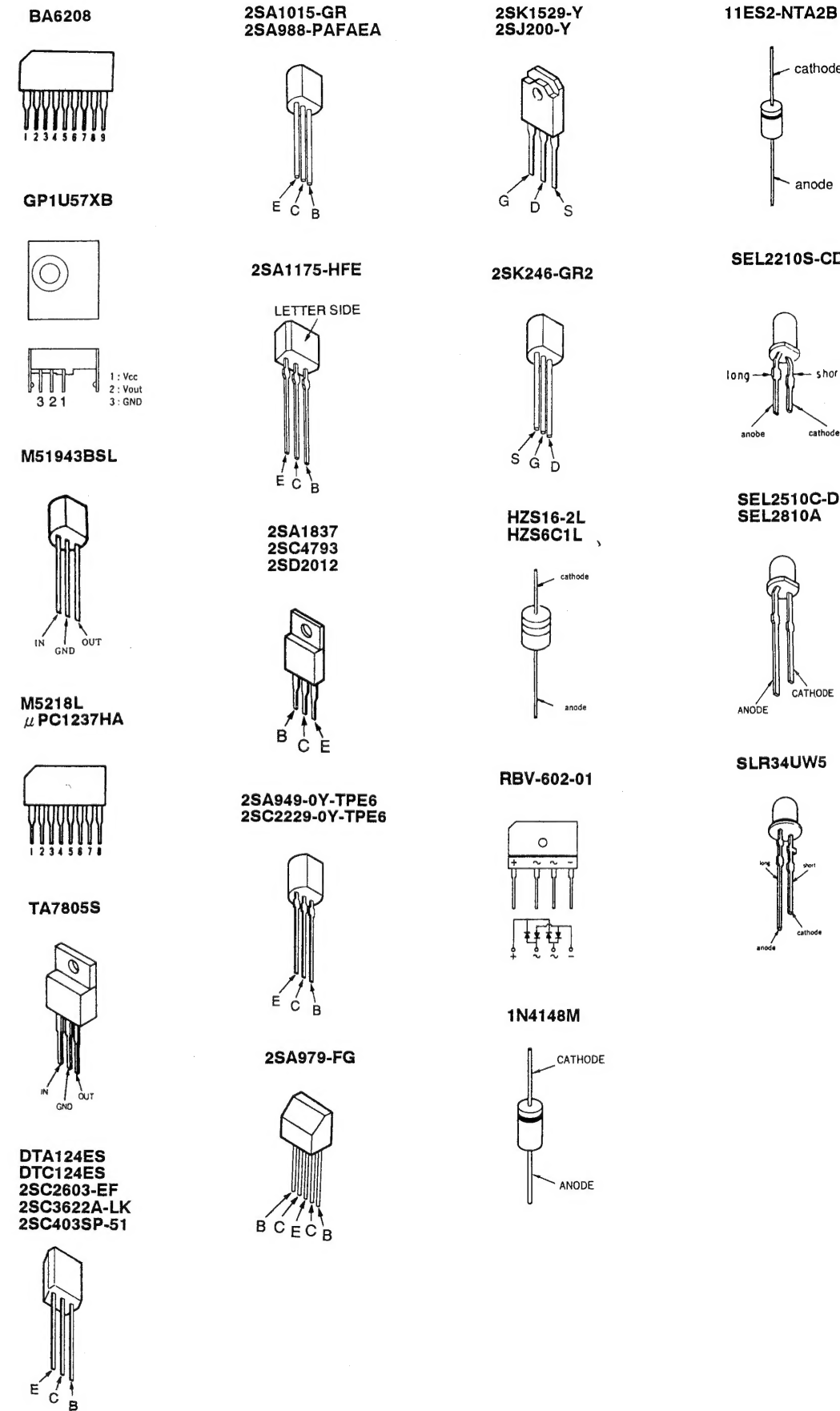
3-3. PRINTED WIRING BOARDS - PANEL SECTION -

• Semiconductor Location

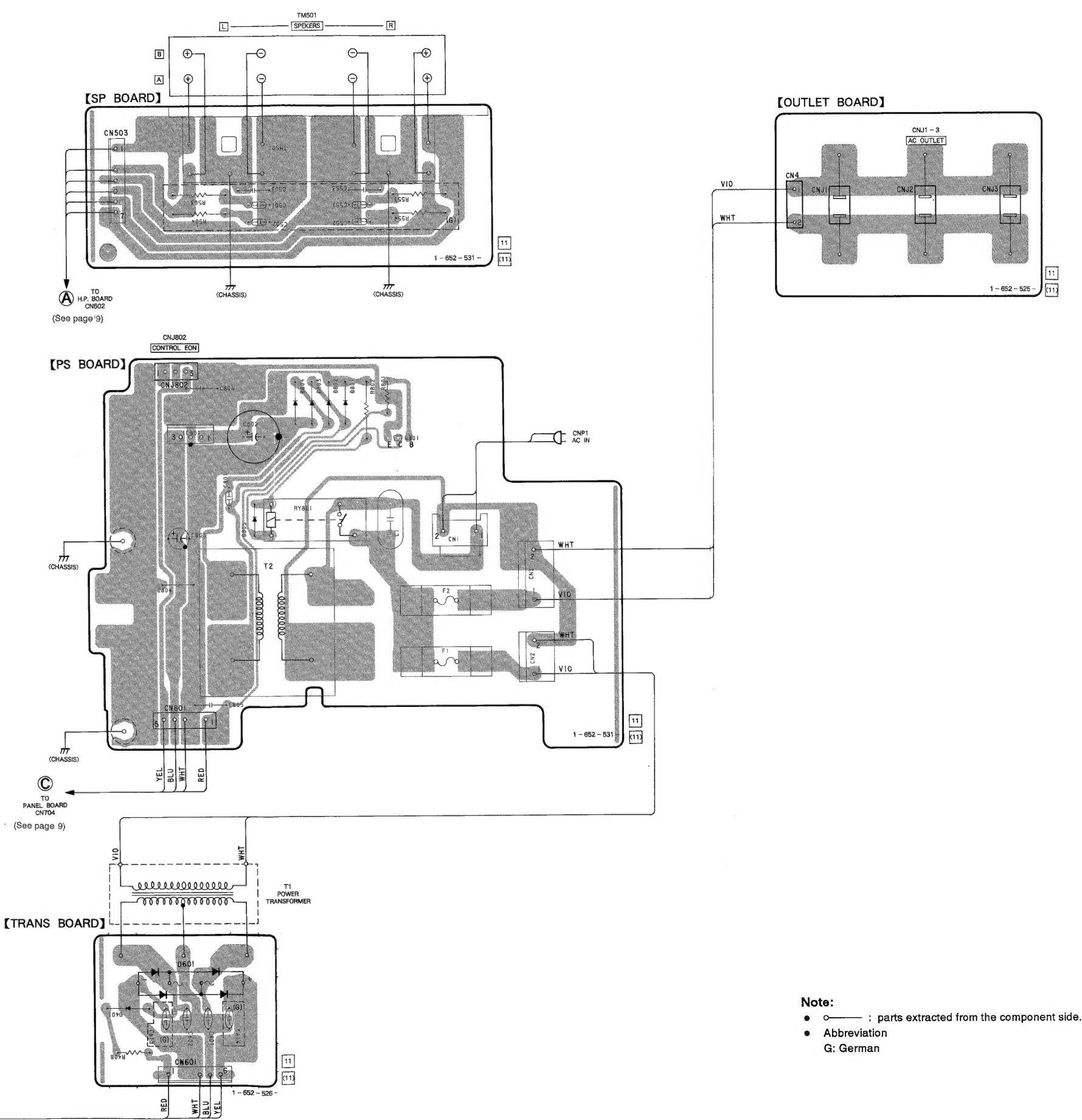
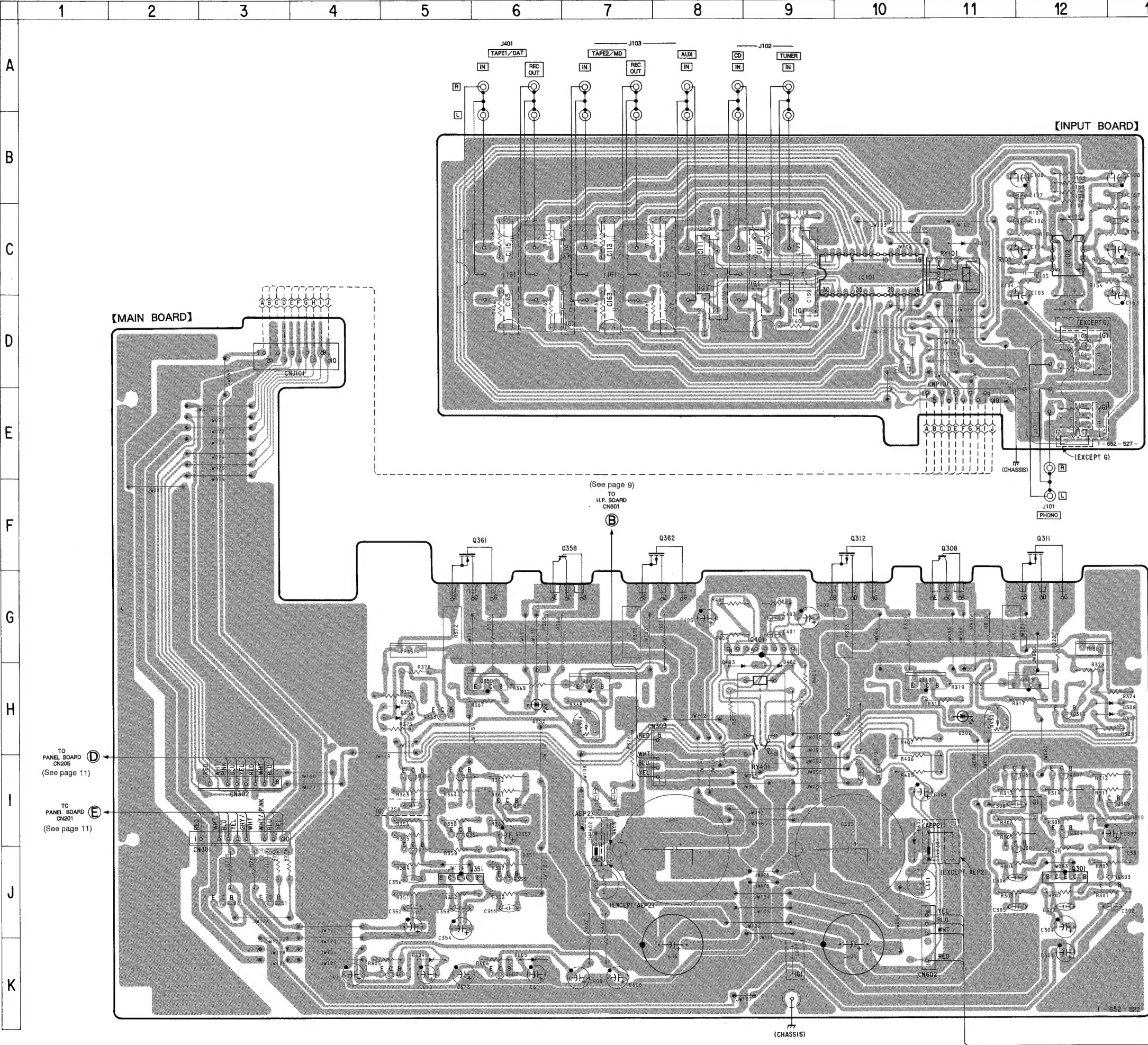
Ref. No.	Location
D701	C-9
D702	C-9
D703	C-9
D704	C-9
D705	C-10
D706	C-10
D707	I-9
D708	J-9
D709	J-8
D710	J-7
D711	I-7
D712	G-11
D713	I-10
D714	G-8
D715	D-2
D716	D-12
D717	D-6
D718	E-11
D719	D-11
D720	E-12
D721	D-6
D722	E-11
D723	E-12
IC201	C-12
IC202	C-12
IC701	D-9
IC702	C-8
IC703	C-7
IC704	E-12
IC705	B-2
Q202	E-16
Q701	C-7
Q702	E-16
Q703	D-7
Q704	D-11
Q705	D-11
Q706	B-11
Q707	D-7
Q708	E-7



• Semiconductor Lead Layouts



Note:
 • : parts extracted from the component side.
 • Abbreviation
 G: German



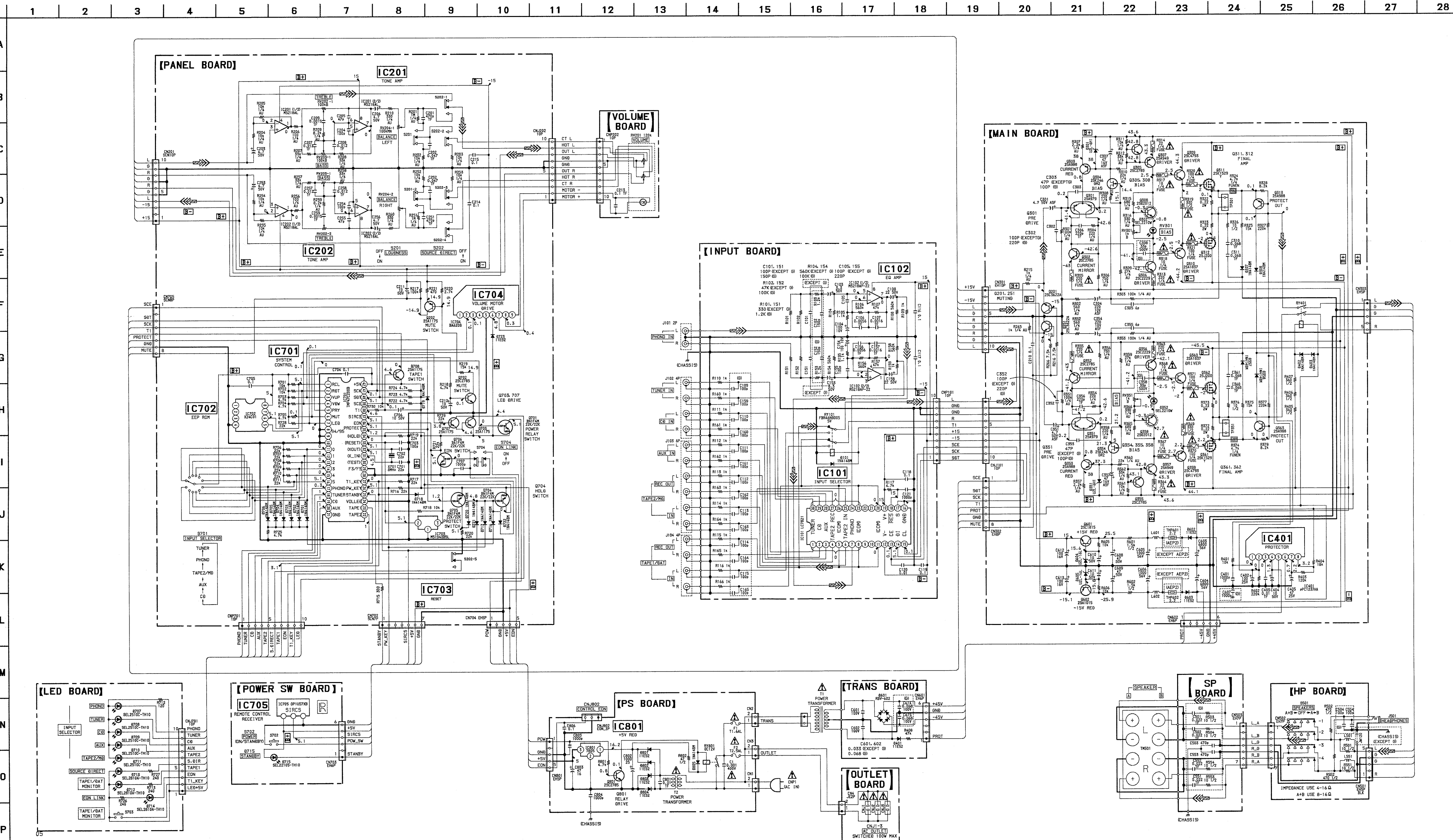
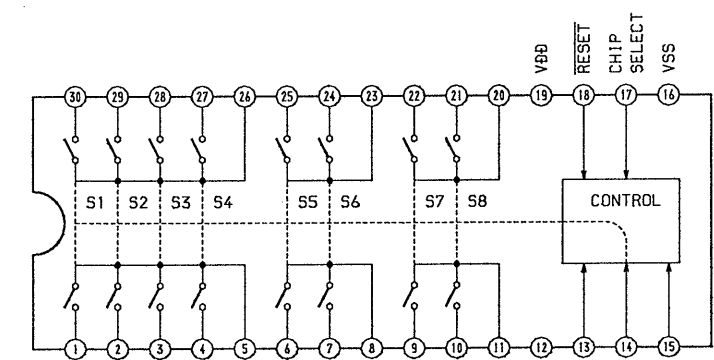
Note:

- : parts extracted from the component side.
- Abbreviation
- G: German

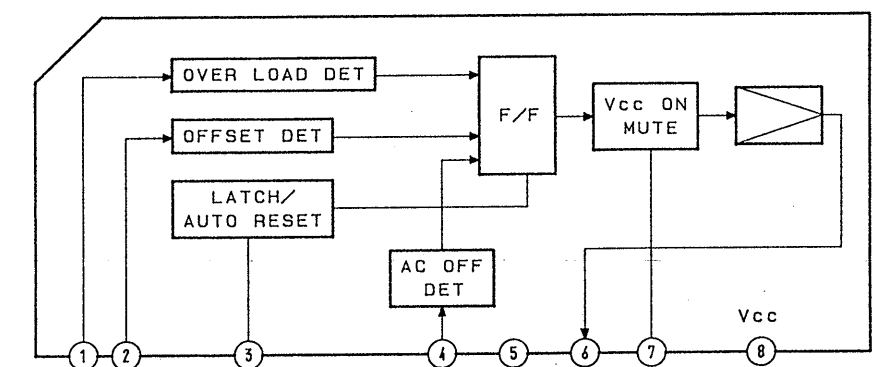
3-5. SCHEMATIC DIAGRAM

Semiconductor Location

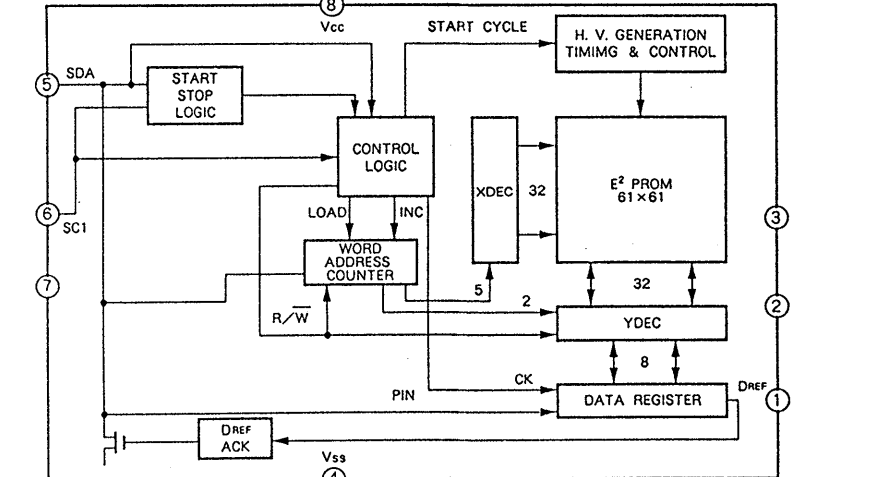
Ref. No.	Location
D101	C-11
D301	J-12
D302	H-12
D307	H-12
D308	H-12
D351	J-6
D352	H-6
D357	H-5
D358	H-5
D401	K-15
D402	H-9
D403	H-9
D601	J-16
D602	I-10
D603	I-7
D604	K-5
D605	K-6
D801	E-17
D802	E-17
D803	E-17
D804	E-17
D805	F-17
IC101	C-10
IC102	C-12
IC401	G-9
IC801	F-16
Q201	J-3
Q251	J-3
Q301	J-12
Q302	J-11
Q303	J-12
Q304	I-12
Q305	I-12
Q306	I-11
Q307	I-12
Q308	F-11
Q309	H-12
Q310	H-10
Q311	F-12
Q312	F-10
Q313	H-12
Q351	J-5
Q352	J-5
Q353	J-6
Q354	I-6
Q355	I-6
Q356	I-5
Q357	I-5
Q358	F-7
Q359	H-6
Q360	H-7
Q361	F-8
Q362	H-5
Q601	K-6
Q602	K-6
Q801	E-18

IC Block Diagrams
IC101 LC7821

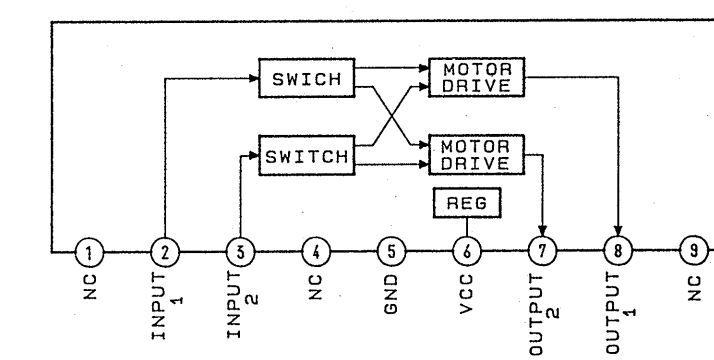
IC401 PC1237HA



IC702 X24C01P-S



IC704 BA6208



Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Nonflammable resistor.
- fusible resistor.

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- Δ : B+ Line.
- Δ : B- Line.
- Δ : panel designation.
- Δ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : PHONO
- Voltages are taken with a VOM (10 M Ω /V).
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
- PHONO
- Abbreviation
- G: German



EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) ... (RED)

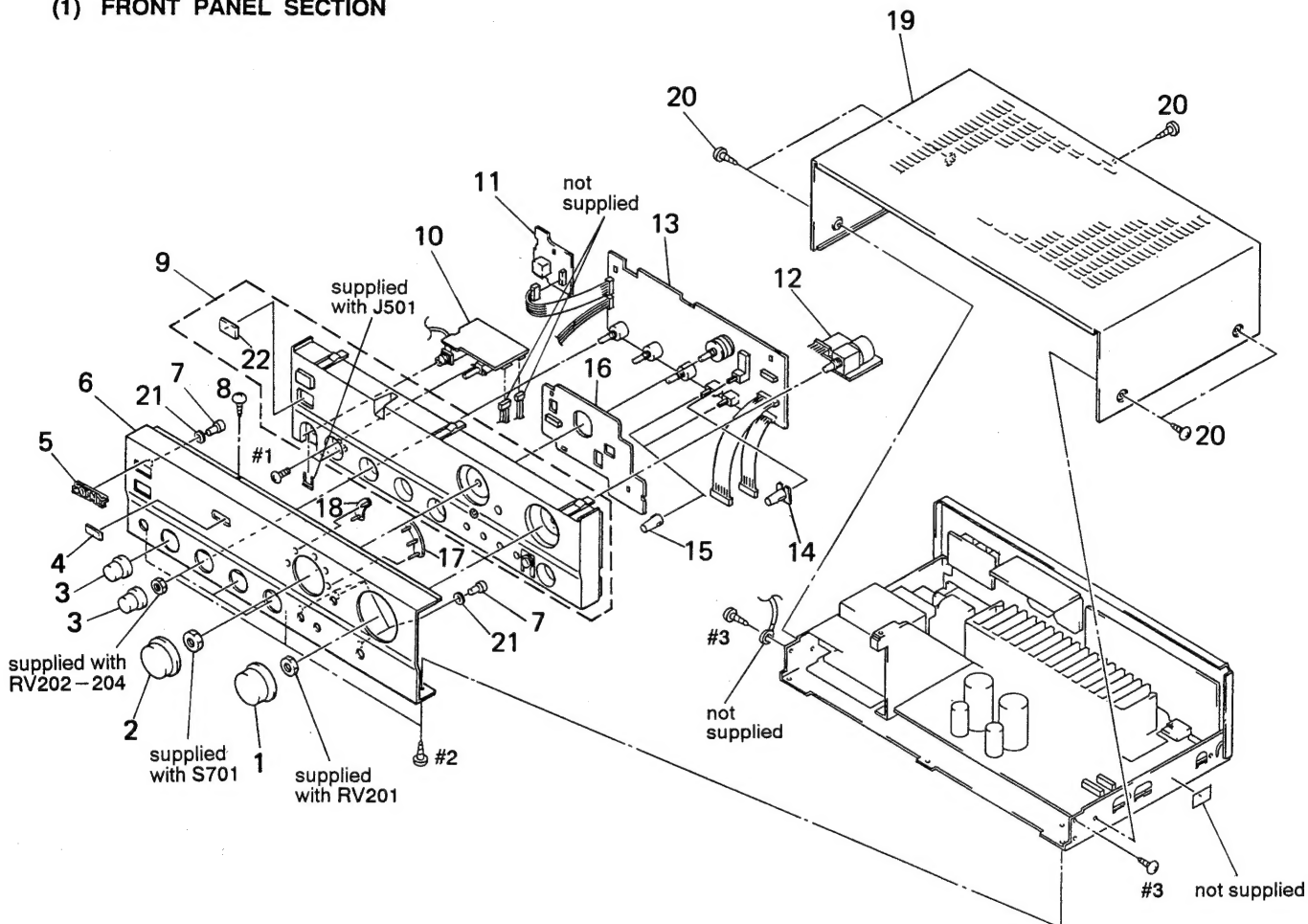
Parts Color	Cabinet's Color
Black	Black
White	White
Gray	Gray
Blue	Blue
Green	Green
Yellow	Yellow
Orange	Orange
Pink	Pink
Purple	Purple
Brown	Brown
Gold	Gold
Silver	Silver
Red	Red
Black	Black
White	White
Gray	Gray
Blue	Blue
Green	Green
Yellow	Yellow
Orange	Orange
Pink	Pink
Purple	Purple
Brown	Brown
Gold	Gold
Silver	Silver
Red	Red

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

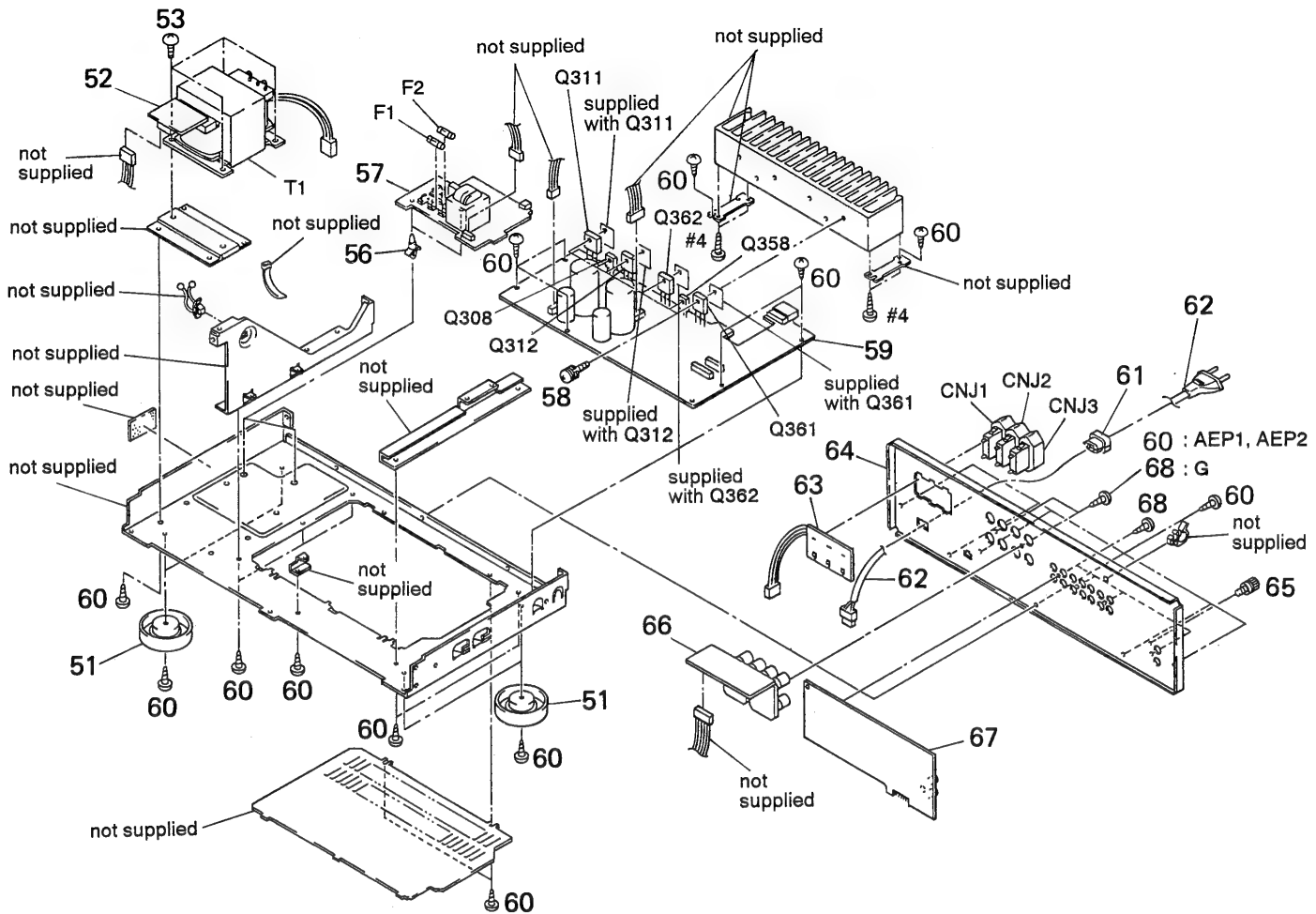
- Abbreviation
G: German

(1) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-4944-844-1	KNOB (VOL) ASSY		* 12	1-652-528-11	VOLUME BOARD	
2	4-966-003-01	KNOB (SEL)		* 13	A-4371-023-A	PANEL BOARD, COMPLETE	
3	4-965-996-01	KNOB (TONE)		14	4-966-000-01	BUTTON (L)	
4	4-965-651-01	EMBLEM (MOS)		15	4-965-997-01	BUTTON (S)	
5	4-942-568-01	EMBLEM (NO. 5), SONY		* 16	1-652-529-11	LED BOARD	
6	4-965-991-01	PANEL, FRONT		17	4-965-999-01	INDICATOR (3)	
7	4-938-518-01	INDICATOR (C)		18	4-965-999-11	INDICATOR (3)	
8	4-967-961-01	SCREW (3X8) (SPECIAL)		19	4-929-294-11	CASE	
9	X-4944-846-1	BASE ASSY, PANEL		20	3-704-366-01	SCREW (CASE) (M3X8)	
* 10	1-652-530-11	HP BOARD		* 21	4-927-881-01	SHEET, ADHESIVE	
* 11	1-652-524-11	POWER-SW BOARD		22	4-931-911-01	FILTER	

(2) CHASSIS SECTION



Note: The components identified by mark, Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	4-956-885-11	FOOT (F58175S2W)	
* 52	1-652-526-11	TRANS BOARD	
53	4-967-960-01	SCREW (4X8)	
* 56	3-346-265-11	HOLDER, PC BOARD	
* 57	1-652-532-11	PS BOARD	
58	3-905-609-11	SCREW (TRANSISTOR)	
* 59	A-4371-020-A	MAIN BOARD, COMPLETE (AEP1)	
* 59	A-4371-021-A	MAIN BOARD, COMPLETE (AEP2)	
* 59	A-4371-022-A	MAIN BOARD, COMPLETE (German)	
60	4-967-961-01	SCREW (3X8) (SPECIAL)	
* 61	3-703-244-00	BUSHING (2104), CORD	
Δ 62	1-575-651-21	CORD, POWER	
* 63	1-652-525-11	OUTLET BOARD	
* 64	4-966-005-01	PANEL, BACK (AEP1)	
* 64	4-966-005-11	PANEL, BACK (AEP2)	
* 64	4-966-005-21	PANEL, BACK (German)	
65	4-947-010-01	SCREW, FEEDER FIXED	

Ref. No.	Part No.	Description	Remark
* 66	1-652-531-11	SP BOARD	
* 67	A-4371-027-A	INPUT BOARD, COMPLETE (AEP1, AEP2)	
* 67	A-4371-028-A	INPUT BOARD, COMPLETE (German)	
68	3-704-515-41	SCREW (BV/RING)	
Δ CNJ1	1-526-794-11	OUTLET, AC	
Δ CNJ2	1-526-794-11	OUTLET, AC	
Δ CNJ3	1-526-794-11	OUTLET, AC	
Δ F1	1-532-286-00	FUSE (T1.6A)	
Δ F2	1-532-259-00	FUSE (T2.5A)	
Q308	8-729-209-15	TRANSISTOR	2SD2012
Q311	8-729-232-45	TRANSISTOR	2SK1529-Y
Q312	8-729-232-46	TRANSISTOR	2SJ200-Y
Q358	8-729-209-15	TRANSISTOR	2SD2012
Q361	8-729-232-45	TRANSISTOR	2SK1529-Y
Q362	8-729-232-46	TRANSISTOR	2SJ200-Y
Δ T1	1-426-797-11	TRANSFORMER, POWER	

SECTION 5 ELECTRICAL PARTS LIST

HP INPUT

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A.. uPA...: μ PA..
uPB...: μ PB.. uPC...: μ PC.. uPD...: μ PD..
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-652-530-11	HP BOARD *****		C104	1-124-443-00	ELECT 100uF 20% 10V	
		< CAPACITOR >		C105	1-162-282-31	CERAMIC 100PF 10% 50V	
C504	1-162-282-31	CERAMIC 100PF 10% 50V (German)				(AEP1, AEP2)	
C554	1-162-282-31	CERAMIC 100PF 10% 50V (German)		C105	1-162-286-31	CERAMIC 220PF 10% 50V (German)	
		< CONNECTOR >		C106	1-130-480-00	MYLAR 0.0056uF 5% 50V	
CN501	1-691-766-21	PLUG (MICRO CONNECTOR) 4P		C107	1-104-842-91	MYLAR 0.0016uF 5% 50V	
CN502	1-691-768-11	PLUG (MICRO CONNECTOR) 6P		C108	1-124-916-11	ELECT 22uF 20% 63V	
		< JACK >		C109	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
J501	1-750-162-61	JACK (LARGE TYPE) (HEADPHONES)		C110	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
		< COIL >		C111	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
* L501	1-420-872-00	COIL, AIR-CORE		C112	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
* L551	1-420-872-00	COIL, AIR-CORE		C113	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
		< RESISTOR >		C114	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
R501	1-247-727-11	CARBON 10 5% 1/2W		C115	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
R502	1-247-747-11	CARBON 470 5% 1/2W		C116	1-164-159-11	CERAMIC 0.1uF 50V	
R551	1-247-727-11	CARBON 10 5% 1/2W		C117	1-164-159-11	CERAMIC 0.1uF 50V	
R552	1-247-747-11	CARBON 470 5% 1/2W		C118	1-164-159-11	CERAMIC 0.1uF 50V	
		< SWITCH >		C119	1-164-159-11	CERAMIC 0.1uF 50V	
S501	1-692-147-11	SWITCH, ROTARY SLIDE (SPEAKERS)		C120	1-161-379-00	CERAMIC 0.01uF 20% 25V	
*****				C121	1-162-294-31	CERAMIC 0.001uF 10% 50V	
*	A-4371-027-A	INPUT BOARD, COMPLETE (AEP1, AEP2)		C151	1-162-282-31	CERAMIC 100PF 10% 50V	
		*****				(AEP1, AEP2)	
*	A-4371-028-A	INPUT BOARD, COMPLETE (German)		C151	1-162-284-31	CERAMIC 150PF 10% 50V (German)	
		*****		C152	1-162-284-31	CERAMIC 150PF 10% 50V (German)	
		< CAPACITOR >		C153	1-126-962-11	ELECT 3.3uF 20% 50V	
C101	1-162-282-31	CERAMIC 100PF 10% 50V		C154	1-124-443-00	ELECT 100uF 20% 10V	
		(AEP1, AEP2)		C155	1-162-282-31	CERAMIC 100PF 10% 50V	
C101	1-162-284-31	CERAMIC 150PF 10% 50V (German)				(AEP1, AEP2)	
C102	1-162-284-31	CERAMIC 150PF 10% 50V (German)		C155	1-162-286-31	CERAMIC 220PF 10% 50V (German)	
C103	1-126-962-11	ELECT 3.3uF 20% 50V		C156	1-130-480-00	MYLAR 0.0056uF 5% 50V	
				C157	1-104-842-91	MYLAR 0.0016uF 5% 50V	
				C158	1-124-916-11	ELECT 22uF 20% 63V	
				C159	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
				C160	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
				C161	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
				C162	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
				C163	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
				C164	1-162-282-31	CERAMIC 100PF 10% 50V (German)	
				C165	1-162-282-31	CERAMIC 100PF 10% 50V (German)	

INPUT

LED

Ref. No.	Part No.	Description	Remark
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< CONNECTOR >

* CNP101	1-568-322-21	PLUG, CONNECTOR 10P	
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< DIODE >

D101	8-719-987-63	DIODE 1N4148M	
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< IC >

IC101	8-759-805-13	IC LC7821	
IC102	8-759-636-74	IC M5218AP-22	

< JACK >

J101	1-573-141-21	JACK 2P (PHONO IN)	
* J102	1-573-142-21	JACK, PIN 4P (TUNER IN/CD IN)	
J103	1-568-978-11	JACK 6P (AUX IN/TAPE2/MD(REC OUT/IN))	
* J104	1-573-142-21	JACK, PIN 4P (TAPE1/DAT(REC OUT/IN))	

< RESISTOR >

R101	1-249-411-11	CARBON 330 5%	1/4W (AEP1, AEP2)
R101	1-249-418-11	CARBON 1.2K 5%	1/4W F (German)
R102	1-249-437-11	CARBON 47K 5%	1/4W (AEP1, AEP2)
R102	1-249-441-11	CARBON 100K 5%	1/4W (German)
R103	1-249-418-11	CARBON 1.2K 5%	1/4W F (German)
R104	1-247-897-11	CARBON 560K 5%	1/4W (AEP1, AEP2)
R104	1-249-441-11	CARBON 100K 5%	1/4W (German)
R105	1-247-832-11	CARBON 1.1K 5%	1/4W
R106	1-247-897-11	CARBON 560K 5%	1/4W
R107	1-249-437-11	CARBON 47K 5%	1/4W
R108	1-247-897-11	CARBON 560K 5%	1/4W
R109	1-249-417-11	CARBON 1K 5%	1/4W F
R110	1-247-713-11	CARBON 1K 5%	1/4W F
R111	1-247-713-11	CARBON 1K 5%	1/4W F
R112	1-247-713-11	CARBON 1K 5%	1/4W F
R113	1-247-713-11	CARBON 1K 5%	1/4W F
R114	1-247-713-11	CARBON 1K 5%	1/4W F
R115	1-247-713-11	CARBON 1K 5%	1/4W F
R116	1-247-713-11	CARBON 1K 5%	1/4W F
R117	1-249-425-11	CARBON 4.7K 5%	1/4W F
R151	1-249-411-11	CARBON 330 5%	1/4W (AEP1, AEP2)
R151	1-249-418-11	CARBON 1.2K 5%	1/4W F (German)
R152	1-249-437-11	CARBON 47K 5%	1/4W (AEP1, AEP2)
R152	1-249-441-11	CARBON 100K 5%	1/4W (German)
R153	1-249-418-11	CARBON 1.2K 5%	1/4W F (German)
R154	1-247-897-11	CARBON 560K 5%	1/4W (AEP1, AEP2)
R154	1-249-441-11	CARBON 100K 5%	1/4W (German)
R155	1-247-832-11	CARBON 1.1K 5%	1/4W
R156	1-247-897-11	CARBON 560K 5%	1/4W
R157	1-249-437-11	CARBON 47K 5%	1/4W

Ref. No.	Part No.	Description	Remark
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R158	1-247-897-11	CARBON 560K 5%	1/4W
R159	1-249-417-11	CARBON 1K 5%	1/4W F
R160	1-247-713-11	CARBON 1K 5%	1/4W F
R161	1-247-713-11	CARBON 1K 5%	1/4W F
R162	1-247-713-11	CARBON 1K 5%	1/4W F

R163	1-247-713-11	CARBON 1K 5%	1/4W F
R164	1-247-713-11	CARBON 1K 5%	1/4W F
R165	1-247-713-11	CARBON 1K 5%	1/4W F
R166	1-247-713-11	CARBON 1K 5%	1/4W F

< RELAY >

RY101	1-515-622-11	RELAY	
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*	1-652-529-11	LED BOARD	
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< CONNECTOR >

* CNJ701	1-691-244-11	SOCKET, CONNECTOR 10P	
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< DIODE >

D707	8-719-303-02	LED SEL2510C-D (PHONO)	
D708	8-719-303-02	LED SEL2510C-D (TUNER)	
D709	8-719-303-02	LED SEL2510C-D (CD)	
D710	8-719-303-02	LED SEL2510C-D (AUX)	
D711	8-719-303-02	LED SEL2510C-D (TAPE2/MD)	
D712	8-719-301-49	LED SEL2810A (TAPE1/DAT MONITOR)	
D713	8-719-301-49	LED SEL2810A (SOURCE DIRECT)	
D714	8-719-301-49	LED SEL2810A (EON LINK)	

< RESISTOR >

R712	1-249-406-11	CARBON 120 5%	1/4W F
R713	1-247-816-11	CARBON 240 5%	1/4W
R726	1-247-816-11	CARBON 240 5%	1/4W
R727	1-247-816-11	CARBON 240 5%	1/4W

< SWITCH >

S703	1-554-303-21	SWITCH, TACTILE (TAPE1/DAT MONITOR)	
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Ref. No.	Part No.	Description	Remark		
*	A-4371-020-A	MAIN BOARD, COMPLETE (AEP1)	*****		
*	A-4371-021-A	MAIN BOARD, COMPLETE (AEP2)	*****		
*	A-4371-022-A	MAIN BOARD, COMPLETE (German)	*****		
< CAPACITOR >					
C210	1-164-159-11	CERAMIC	0.1uF		50V
C301	1-126-163-11	ELECT	4.7uF	20%	50V
C302	1-110-335-11	MYLAR	100PF	5%	50V
				(AEP1, AEP2)	
C302	1-110-339-11	MYLAR	220PF	5%	50V
				(German)	
C303	1-164-062-11	CERAMIC	47PF	5%	50V
				(AEP1, AEP2)	
C303	1-164-070-11	CERAMIC	100PF	5%	50V
				(German)	
C304	1-124-995-11	ELECT	220uF	20%	10V
C305	1-102-943-00	CERAMIC	6.0PF	+-0.5PF	50V
C306	1-110-339-11	MYLAR	220PF	5%	50V
C307	1-126-022-11	ELECT	47uF	20%	16V
C308	1-102-233-00	CERAMIC	33PF	10%	500V
				(German)	
C310	1-136-163-00	FILM	0.068uF	5%	50V
C311	1-136-163-00	FILM	0.068uF	5%	50V
C351	1-126-163-11	ELECT	4.7uF	20%	50V
C352	1-110-335-11	MYLAR	100PF	5%	50V
				(AEP1, AEP2)	
C352	1-110-339-11	MYLAR	220PF	5%	50V
				(German)	
C353	1-164-062-11	CERAMIC	47PF	5%	50V
				(AEP1, AEP2)	
C353	1-164-070-11	CERAMIC	100PF	5%	50V
				(German)	
C354	1-124-995-11	ELECT	220uF	20%	10V
C355	1-102-943-00	CERAMIC	6.0PF	+-0.5PF	50V
C356	1-110-339-11	MYLAR	220PF	5%	50V
C357	1-126-022-11	ELECT	47uF	20%	16V
C358	1-102-233-00	CERAMIC	33PF	10%	500V
				(German)	
C360	1-136-163-00	FILM	0.068uF	5%	50V
C361	1-136-163-00	FILM	0.068uF	5%	50V
C401	1-130-471-00	MYLAR	0.001uF	5%	50V
C402	1-124-478-11	ELECT	100uF	20%	25V
C403	1-136-153-00	FILM	0.01uF	5%	50V
C404	1-124-907-11	ELECT	10uF	20%	50V
C405	1-124-477-11	ELECT	47uF	20%	25V

Ref.No.	Part No.	Description	Remark		
C603	1-109-866-11	ELECT(SOLID)	6800uF	20%	56V
C604	1-109-866-11	ELECT(SOLID)	6800uF	20%	56V
C605	1-109-967-11	ELECT(SOLID)	1000uF	20%	56V
C606	1-109-967-11	ELECT(SOLID)	1000uF	20%	56V
C607	1-162-294-31	CERAMIC	0.001uF	10%	50V
				(German)	
C608	1-124-910-11	ELECT	47uF	20%	50V
C609	1-124-910-11	ELECT	47uF	20%	50V
C610	1-124-907-11	ELECT	10uF	20%	50V
C611	1-124-907-11	ELECT	10uF	20%	50V
C612	1-126-101-11	ELECT	100uF	20%	16V
C613	1-126-101-11	ELECT	100uF	20%	16V
< CONNECTOR >					
CN301	1-691-771-11	PLUG (MICRO CONNECTOR)	9P		
CN302	1-691-769-11	PLUG (MICRO CONNECTOR)	7P		
CN303	1-691-766-21	PLUG (MICRO CONNECTOR)	4P		
CN602	1-691-767-11	PLUG (MICRO CONNECTOR)	5P		
CNJ101	1-568-321-11	SOCKET, CONNECTOR	10P		
< DIODE >					
D301	8-719-933-39	DIODE	HZS6C1L		
D302	8-719-900-19	LED	SLR34UW5		
D307	8-719-987-63	DIODE	1N4148M		
D308	8-719-987-63	DIODE	1N4148M		
D351	8-719-933-39	DIODE	HZS6C1L		
D352	8-719-900-19	LED	SLR34UW5		
D357	8-719-987-63	DIODE	1N4148M		
D358	8-719-987-63	DIODE	1N4148M		
D402	8-719-987-63	DIODE	1N4148M		
D403	8-719-987-63	DIODE	1N4148M		
D602	8-719-024-99	DIODE	11ES2-NTA2B		
D603	8-719-024-99	DIODE	11ES2-NTA2B		
D604	8-719-933-88	DIODE	HZS16-2L		
D605	8-719-933-88	DIODE	HZS16-2L		
< IC >					
IC401	8-759-111-68	IC	uPC1237HA		
< COIL >					
* L601	1-428-203-11	COIL, AIR-CORE			
* L602	1-428-203-11	COIL, AIR-CORE			
< TRANSISTOR >					
Q201	8-729-141-26	TRANSISTOR	2SC3622A-LK		
Q251	8-729-141-26	TRANSISTOR	2SC3622A-LK		
Q301	8-729-620-18	TRANSISTOR	2SA979-FG		
Q302	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q303	8-729-140-82	TRANSISTOR	2SA988-PAFAEA		

MAIN

Ref. No.	Part No.	Description	Remark
Q304	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q305	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q306	8-729-021-73	TRANSISTOR 2SC2229-OY-TPE6	
Q307	8-729-021-74	TRANSISTOR 2SA949-OY-TPE6	
Q308	8-729-209-15	TRANSISTOR 2SD2012	
Q309	8-729-017-06	TRANSISTOR 2SC4793	
Q310	8-729-017-05	TRANSISTOR 2SA1837	
Q311	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q312	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q313	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q351	8-729-620-18	TRANSISTOR 2SA979-FG	
Q352	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q353	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q354	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q355	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q356	8-729-021-73	TRANSISTOR 2SC2229-OY-TPE6	
Q357	8-729-021-74	TRANSISTOR 2SA949-OY-TPE6	
Q358	8-729-209-15	TRANSISTOR 2SD2012	
Q359	8-729-017-06	TRANSISTOR 2SC4793	
Q360	8-729-017-05	TRANSISTOR 2SA1837	
Q361	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q362	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q363	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q602	8-729-201-53	TRANSISTOR 2SA1015-GR	

< RESISTOR >

R215	1-247-713-11	CARBON	1K	5%	1/4W F
R216	1-247-852-11	CARBON	7.5K	5%	1/4W
R265	1-247-713-11	CARBON	1K	5%	1/4W F
R266	1-247-852-11	CARBON	7.5K	5%	1/4W
R301	1-249-469-11	CARBON	100K	5%	1/4W
R302	1-247-710-11	CARBON	560	5%	1/4W F
R303	1-249-469-11	CARBON	100K	5%	1/4W
R304	1-247-704-11	CARBON	220	5%	1/4W F
△R305	1-212-889-00	FUSIBLE	220	5%	1/4W F
R306	1-247-128-00	CARBON	750	5%	1/4W
R307	1-247-717-11	CARBON	2.2K	5%	1/4W F
R308	1-247-704-11	CARBON	220	5%	1/4W F
R309	1-249-586-11	CARBON	27K	5%	1/4W
R310	1-249-462-11	CARBON	22K	5%	1/4W
R311	1-247-725-11	CARBON	10K	5%	1/4W F
R312	1-249-497-11	CARBON	33K	5%	1/4W
△R313	1-212-889-00	FUSIBLE	220	5%	1/4W F
△R314	1-212-865-00	FUSIBLE	22	5%	1/4W F
R315	1-247-711-11	CARBON	680	5%	1/4W F
R316	1-247-706-11	CARBON	330	5%	1/4W F
△R317	1-212-857-00	FUSIBLE	10	5%	1/4W F
△R318	1-212-857-00	FUSIBLE	10	5%	1/4W F

△R319	1-212-994-00	FUSIBLE	330	5%	1/2W F
△R320	1-212-881-11	FUSIBLE	100	5%	1/4W F
△R321	1-212-881-11	FUSIBLE	100	5%	1/4W F
R322	1-217-151-00	RES, METAL PLATE			0.22
R323	1-217-151-00	RES, METAL PLATE			0.22
R324	1-247-721-11	CARBON	4.7K	5%	1/4W F
R325	1-249-431-11	CARBON	15K	5%	1/4W
R326	1-247-727-11	CARBON	10	5%	1/2W
R327	1-247-887-00	CARBON	220K	5%	1/4W
R328	1-249-428-11	CARBON	8.2K	5%	1/4W F
R351	1-249-469-11	CARBON	100K	5%	1/4W
R352	1-247-710-11	CARBON	560	5%	1/4W F
R353	1-249-469-11	CARBON	100K	5%	1/4W
R354	1-247-704-11	CARBON	220	5%	1/4W F
△R355	1-212-889-00	FUSIBLE	220	5%	1/4W F
R356	1-247-128-00	CARBON	750	5%	1/4W
R357	1-247-717-11	CARBON	2.2K	5%	1/4W F
R358	1-247-704-11	CARBON	220	5%	1/4W F
R359	1-249-586-11	CARBON	27K	5%	1/4W
R360	1-249-462-11	CARBON	22K	5%	1/4W
R361	1-247-725-11	CARBON	10K	5%	1/4W F
R362	1-249-497-11	CARBON	33K	5%	1/4W
△R363	1-212-889-00	FUSIBLE	220	5%	1/4W F
△R364	1-212-865-00	FUSIBLE	22	5%	1/4W F
R365	1-247-711-11	CARBON	680	5%	1/4W F
R366	1-247-706-11	CARBON	330	5%	1/4W F
△R367	1-212-857-00	FUSIBLE	10	5%	1/4W F
△R368	1-212-857-00	FUSIBLE	10	5%	1/4W F
△R369	1-212-994-00	FUSIBLE	330	5%	1/2W F
△R370	1-212-881-11	FUSIBLE	100	5%	1/4W F
△R371	1-212-881-11	FUSIBLE	100	5%	1/4W F
R372	1-217-151-00	RES, METAL PLATE			0.22
R373	1-217-151-00	RES, METAL PLATE			0.22
R374	1-247-721-11	CARBON	4.7K	5%	1/4W F
R375	1-249-431-11	CARBON	15K	5%	1/4W
R376	1-247-727-11	CARBON	10	5%	1/2W
R377	1-247-887-00	CARBON	220K	5%	1/4W
R378	1-249-428-11	CARBON	8.2K	5%	1/4W F
R401	1-249-429-11	CARBON	10K	5%	1/4W
R402	1-247-887-00	CARBON	220K	5%	1/4W
R403	1-247-881-00	CARBON	120K	5%	1/4W
R404	1-249-432-11	CARBON	18K	5%	1/4W
R405	1-247-229-00	CARBON	360	5%	1/2W
R406	1-247-229-00	CARBON	360	5%	1/2W
R407	1-247-229-00	CARBON	360	5%	1/2W
R601	1-247-754-11	CARBON	1.5K	5%	1/2W
R602	1-247-754-11	CARBON	1.5K	5%	1/2W
R605	1-249-429-11	CARBON	10K	5%	1/4W

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Remark		
R606	1-249-429-11	CARBON	10K	5%	1/4W
< VARIABLE RESISTOR >					
RV301	1-241-761-11	RES, ADJ, CARBON 1K			
RV351	1-241-761-11	RES, ADJ, CARBON 1K			
< RELAY >					
RY401	1-515-920-11	RELAY (24V)			
< THERMISTOR(POSITIVE) >					
THP601	1-806-882-11	THERMISTOR, POSITIVE 2.2 (AEP2)			
THP602	1-806-882-11	THERMISTOR, POSITIVE 2.2 (AEP2)			
< TEST PIN >					
* TP301	1-564-506-11	PLUG, CONNECTOR 3P			
* TP351	1-564-506-11	PLUG, CONNECTOR 3P			

* 1-652-525-11	OUTLET BOARD				

< JACK >					
△CNJ1	1-526-794-11	OUTLET, AC			
△CNJ2	1-526-794-11	OUTLET, AC			
△CNJ3	1-526-794-11	OUTLET, AC			

* A-4371-023-A	PANEL BOARD, COMPLETE				

< CAPACITOR >					
C201	1-130-467-00	MYLAR	470PF	5%	50V
C202	1-136-161-00	FILM	0.047uF	5%	50V
C203	1-126-163-11	ELECT	4.7uF	20%	50V
C204	1-162-282-31	CERAMIC	100PF	10%	50V
C205	1-162-215-31	CERAMIC	47PF	5%	50V
C206	1-126-163-11	ELECT	4.7uF	20%	50V
C207	1-136-154-00	FILM	0.012uF	5%	50V
C208	1-136-154-00	FILM	0.012uF	5%	50V
C209	1-130-473-00	MYLAR	0.0015uF	5%	50V
C211	1-124-907-11	ELECT	10uF	20%	50V
C212	1-124-907-11	ELECT	10uF	20%	50V
C214	1-164-159-11	CERAMIC	0.1uF		50V
C215	1-164-159-11	CERAMIC	0.1uF		50V
C251	1-130-467-00	MYLAR	470PF	5%	50V
C252	1-136-161-00	FILM	0.047uF	5%	50V
C253	1-126-163-11	ELECT	4.7uF	20%	50V
C254	1-162-282-31	CERAMIC	100PF	10%	50V
C255	1-162-215-31	CERAMIC	47PF	5%	50V

		MAIN		OUTLET		PANEL	
Ref. No.	Part No.	Description			Remark		
C256	1-126-163-11	ELECT	4. 7uF	20%	50V		
C257	1-136-154-00	FILM	0. 012uF	5%	50V		
C258	1-136-154-00	FILM	0. 012uF	5%	50V		
C259	1-130-473-00	MYLAR	0. 0015uF	5%	50V		
C701	1-162-207-31	CERAMIC	22PF	5%	50V		
C702	1-162-207-31	CERAMIC	22PF	5%	50V		
C703	1-162-282-31	CERAMIC	100PF	10%	50V		
C704	1-164-159-11	CERAMIC	0. 1uF		50V		
C705	1-164-159-11	CERAMIC	0. 1uF		50V		
C706	1-124-907-11	ELECT	10uF	20%	50V		
C707	1-162-294-31	CERAMIC	0. 001uF	10%	50V		
< CONNECTOR >							
CN704	1-691-766-11	PLUG (MICRO CONNECTOR) 4P					
* CNJ202	1-568-451-11	HOUSING, CONNECTOR(PC BOARD) 10P					
CNP701	1-766-257-11	PIN, CONNECTOR (PC BOARD) 10P					
< DIODE >							
D701	8-719-987-63	DIODE	1N4148M				
D702	8-719-987-63	DIODE	1N4148M				
D703	8-719-987-63	DIODE	1N4148M				
D704	8-719-987-63	DIODE	1N4148M				
D705	8-719-987-63	DIODE	1N4148M				
D706	8-719-987-63	DIODE	1N4148M				
D716	8-719-987-63	DIODE	1N4148M				
D717	8-719-987-63	DIODE	1N4148M				
D718	8-719-987-63	DIODE	1N4148M				
D719	8-719-987-63	DIODE	1N4148M				
D720	8-719-987-63	DIODE	1N4148M				
D721	8-719-987-63	DIODE	1N4148M				
D722	8-719-987-63	DIODE	1N4148M				
D723	8-719-024-99	DIODE	11ES2-NTA2B				
< IC >							
IC201	8-759-634-50	IC	M5218AL				
IC202	8-759-634-50	IC	M5218AL				
IC701	8-759-711-78	IC	TMP47C200BN-H307				
IC702	8-759-188-67	IC	X24C01P-S				
IC703	8-759-635-63	IC	M51943BSL				
IC704	8-759-962-08	IC	BA6208				
< TRANSISTOR >							
Q202	8-729-119-76	TRANSISTOR	2SA1175-HFE				
Q701	8-729-900-63	TRANSISTOR	DTA124ES				
Q702	8-729-620-05	TRANSISTOR	2SC2603-EF				
Q703	8-729-119-76	TRANSISTOR	2SA1175-HFE				
Q704	8-729-900-63	TRANSISTOR	DTA124ES				
Q705	8-729-900-63	TRANSISTOR	DTA124ES				

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

PANEL

POWER-SW

PS

Ref. No.	Part No.	Description	Remark
Q706	8-729-900-36	TRANSISTOR DTC124ES	
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q708	8-729-119-76	TRANSISTOR 2SA1175-HFE	
< RESISTOR >			
R201	1-246-545-00	CARBON 1.0M 5% 1/4W	
R202	1-247-725-11	CARBON 10K 5% 1/4W F	
R203	1-247-725-11	CARBON 10K 5% 1/4W F	
R204	1-247-725-11	CARBON 10K 5% 1/4W F	
R205	1-247-725-11	CARBON 10K 5% 1/4W F	
R206	1-247-700-11	CARBON 100 5% 1/4W F	
R207	1-249-497-11	CARBON 33K 5% 1/4W	
R208	1-249-497-11	CARBON 33K 5% 1/4W	
R209	1-247-152-00	CARBON 8.2K 5% 1/4W	
R210	1-247-706-11	CARBON 330 5% 1/4W F	
R217	1-249-441-11	CARBON 100K 5% 1/4W	
R218	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R219	1-249-431-11	CARBON 15K 5% 1/4W	
R220	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R221	1-249-413-11	CARBON 470 5% 1/4W F	
R251	1-246-545-00	CARBON 1.0M 5% 1/4W	
R252	1-247-725-11	CARBON 10K 5% 1/4W F	
R253	1-247-725-11	CARBON 10K 5% 1/4W F	
R254	1-247-725-11	CARBON 10K 5% 1/4W F	
R255	1-247-725-11	CARBON 10K 5% 1/4W F	
R256	1-247-700-11	CARBON 100 5% 1/4W F	
R257	1-249-497-11	CARBON 33K 5% 1/4W	
R258	1-249-497-11	CARBON 33K 5% 1/4W	
R259	1-247-152-00	CARBON 8.2K 5% 1/4W	
R260	1-247-706-11	CARBON 330 5% 1/4W F	
R701	1-249-429-11	CARBON 10K 5% 1/4W	
R702	1-249-429-11	CARBON 10K 5% 1/4W	
R703	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R704	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R705	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R706	1-249-433-11	CARBON 22K 5% 1/4W	
R707	1-249-433-11	CARBON 22K 5% 1/4W	
R708	1-249-433-11	CARBON 22K 5% 1/4W	
R709	1-249-433-11	CARBON 22K 5% 1/4W	
R710	1-249-433-11	CARBON 22K 5% 1/4W	
R711	1-249-433-11	CARBON 22K 5% 1/4W	
R715	1-247-818-11	CARBON 300 5% 1/4W	
R716	1-249-433-11	CARBON 22K 5% 1/4W	
R717	1-249-433-11	CARBON 22K 5% 1/4W	
R718	1-249-429-11	CARBON 10K 5% 1/4W	
R719	1-249-433-11	CARBON 22K 5% 1/4W	
R720	1-249-433-11	CARBON 22K 5% 1/4W	
R721	1-249-433-11	CARBON 22K 5% 1/4W	
R722	1-249-425-11	CARBON 4.7K 5% 1/4W F	

Ref. No.	Part No.	Description	Remark
R723	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R724	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R725	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R728	1-249-433-11	CARBON 22K 5% 1/4W	
R729	1-249-433-11	CARBON 22K 5% 1/4W	
R730	1-249-429-11	CARBON 10K 5% 1/4W	
< VARIABLE RESISTOR >			
RV202	1-223-657-11	RES, VAR, CARBON 100K/100K (TREBLE)	
RV203	1-223-657-11	RES, VAR, CARBON 100K/100K (BASS)	
RV204	1-223-658-11	RES, VAR, CARBON 100K/100K (BALANCE)	
< SWITCH >			
S201	1-571-112-21	SWITCH, PUSH (1 KEY) (LOUDNESS)	
S202	1-572-642-11	SWITCH, PUSH (1 KEY) (SOURCE DIRECT)	
S701	1-692-967-11	SWITCH, ROTARY (INPUT SELECTOR)	
S704	1-571-112-21	SWITCH, PUSH (1 KEY) (EON LINK)	
< VIBRATOR >			
X701	1-579-223-11	OSCILLATOR, CERAMIC (8MHz)	

*	1-652-524-11	POWER-SW BOARD	

< CONNECTOR >			
CN703	1-691-767-11	PLUG (MICRO CONNECTOR) 5P	
< DIODE >			
D715	8-719-301-37	LED SEL2210S-CD (STANDBY)	
< IC >			
IC705	8-749-923-43	IC GP1U57XB	
< SWITCH >			
S702	1-554-303-21	SWITCH, TACTILE (POWER)	

*	1-652-532-11	PS BOARD	

	1-533-233-11	HOLDER, FUSE	
< CAPACITOR >			
△C1	1-161-741-00	CERAMIC 0.001uF 10% 400V	
C801	1-136-153-00	FILM 0.01uF 5% 50V	
C802	1-124-557-11	ELECT 1000uF 20% 25V	
C803	1-124-477-11	ELECT 47uF 20% 25V	
C804	1-162-294-31	CERAMIC 0.001uF 10% 50V	

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PS	SP	TRANS	VOLUME
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Ref. No.	Part No.	Description	Remark
C805	1-162-294-31	CERAMIC 0.001uF 10%	50V
C806	1-164-159-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
CN1	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
CN2	1-564-321-00	PIN, CONNECTOR 2P	
CN3	1-580-629-11	PIN, CONNECTOR 2P	
CN801	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CNJ802	1-566-212-11	PIN, CONNECTOR 3P	
< DIODE >			
D801	8-719-024-99	DIODE 11ES2-NTA2B	
D802	8-719-024-99	DIODE 11ES2-NTA2B	
D803	8-719-024-99	DIODE 11ES2-NTA2B	
D804	8-719-024-99	DIODE 11ES2-NTA2B	
D805	8-719-987-63	DIODE 1N4148M	
< FUSE >			
△F1	1-532-286-00	FUSE (T1. 6A)	
△F2	1-532-259-00	FUSE (T2. 5A)	
< IC >			
IC801	8-759-231-53	IC TA7805S	
< TRANSISTOR >			
Q801	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R801	1-249-425-11	CARBON 4.7K 5%	1/4W F
R802	1-247-735-11	CARBON 47 5%	1/2W F
< RELAY >			
RY801	1-755-018-11	RELAY	
< TRANSFORMER >			
△T2	1-449-071-21	TRANSFORMER, POWER	

*	1-652-531-11	SP BOARD	

< CAPACITOR >			
C501	1-136-157-00	FILM 0.022uF 5%	50V (German)
C502	1-136-157-00	FILM 0.022uF 5%	50V (German)
C503	1-162-290-31	CERAMIC 470PF 10%	50V (German)
C551	1-136-157-00	FILM 0.022uF 5%	50V (German)
C552	1-136-157-00	FILM 0.022uF 5%	50V (German)
C553	1-162-290-31	CERAMIC 470PF 10%	50V (German)

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CN503	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
< RESISTOR >			
R503	1-247-727-11	CARBON 10 5%	1/2W (German)
R504	1-247-727-11	CARBON 10 5%	1/2W (German)
R553	1-247-727-11	CARBON 10 5%	1/2W (German)
R554	1-247-727-11	CARBON 10 5%	1/2W (German)
< TERMINAL >			
* TM501	1-537-519-11	TERMINAL BOARD (SP) (SPEAKER) (AEP1)	
* TM501	1-537-699-11	TERMINAL BOARD (SP) (SPEAKER) (German)	
* TM501	1-537-762-11	TERMINAL BOARD (SP) (SPEAKER) (AEP2)	

*	1-652-526-11	TRANS BOARD	

< CAPACITOR >			
C601	1-106-379-12	MYLAR 0.033uF 5%	200V (AEP1, AEP2)
C601	1-108-702-11	MYLAR 0.068uF 10%	100V (German)
C602	1-106-379-12	MYLAR 0.033uF 5%	200V (AEP1, AEP2)
C602	1-108-702-11	MYLAR 0.068uF 10%	100V (German)
C614	1-108-702-11	MYLAR 0.068uF 10%	100V (German)
C615	1-108-702-11	MYLAR 0.068uF 10%	100V (German)
< CONNECTOR >			
CN601	1-691-767-11	PLUG (MICRO CONNECTOR) 5P	
< DIODE >			
D401	8-719-024-99	DIODE 11ES2-NTA2B	
D601	8-719-302-38	DIODE RBV-602-01	
< RESISTOR >			
R408	1-249-437-11	CARBON 47K 5%	1/4W

*	1-652-528-11	VOLUME BOARD	

< CAPACITOR >			
C213	1-136-165-00	FILM 0.1uF 5%	50V
< CONNECTOR >			
* CNP202	1-568-455-11	PIN, CONNECTOR (PC BOARD) 10P	

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VOLUME

Ref. No.	Part No.	Description	Remark
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< VARIABLE RESISTOR >

RV201 1-223-656-11 RES, VAR, CARBON 120K/120K (VOLUME)

MISCELLANEOUS

△62 1-575-651-21 CORD, POWER

△T1 1-426-797-11 TRANSFORMER, POWER

ACCESSORIES & PACKING MATERIALS

1-693-131-11 REMOTE COMMANDER (RM-S311)

2-181-754-21 COVER, BATTERY

3-758-606-11 MANUAL, INSTRUCTION (ENGLISH, FRENCH,
SPANISH, PORTUGUESE) (AEP1, AEP2)3-758-606-41 MANUAL, INSTRUCTION
(GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP1, AEP2)

3-758-606-51 MANUAL, INSTRUCTION (GERMAN) (German)

* 4-967-234-01 INDIVIDUAL CARTON

* 4-967-239-01 CUSHION

HARDWARE LIST

#1 7-682-548-09 SCREW +BVTT 3X8 (S)

#2 7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3

#3 7-685-546-19 SCREW +BTP 3X8 TYPE2 N-S

#4 7-685-647-79 SCREW +BVTP 3X10 TYPE2 IT-3

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△ are critical for safety.
Replace only with part number
specified.